# ForceNet

*Challenges for the Technical Publication Community*

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**Transforming Information Into Combat Power**

# Background

**ForceNet is the *"Connective Tissue"* for Sea Power 21**

- What does ForceNet mean to Tech Manuals and TMMAs?

- What process must be improved to effect ForceNet?

    How do we improve documentation speed-to-capability?

    How do we improve ILS quality?

    How do we decrease documentation costs?

- What are the ILS issues associated with ForceNet Fleet Readiness?

*The TM Community Must Evolve to Support SeaPower 21*

# What is SPAWAR /PEO C4I-S Doing About It?

- SPAWAR 04: Taking the initiative to transform logistical products to support ForceNet
  - Web Based Infrastructure – Horizontal Integrated Data Environment
  - Virtual Document / XML Content development for IT-21
  - Supporting ILE in Tech Data / Training Content Integration
  - Revising policy and business process instructions
    - ILS Certification
    - TMMA (4160.4)

# The Navy's Vision

**Sea Shield**

**Sea Power 21**
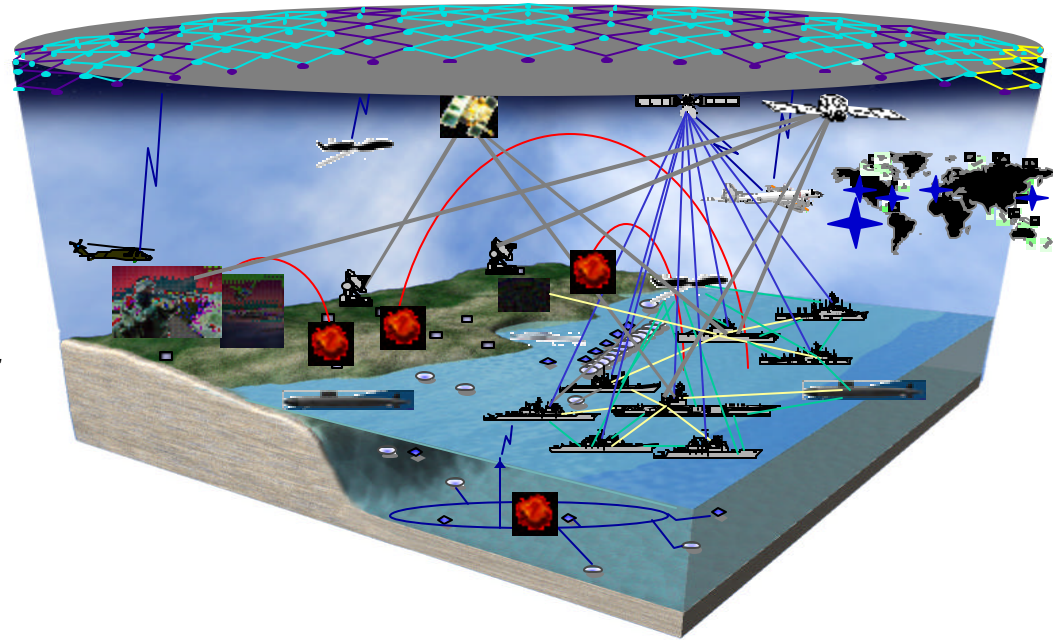
*FORCEnet*

**Sea Strike**

**Sea Basing**

# FORCEnet Overview

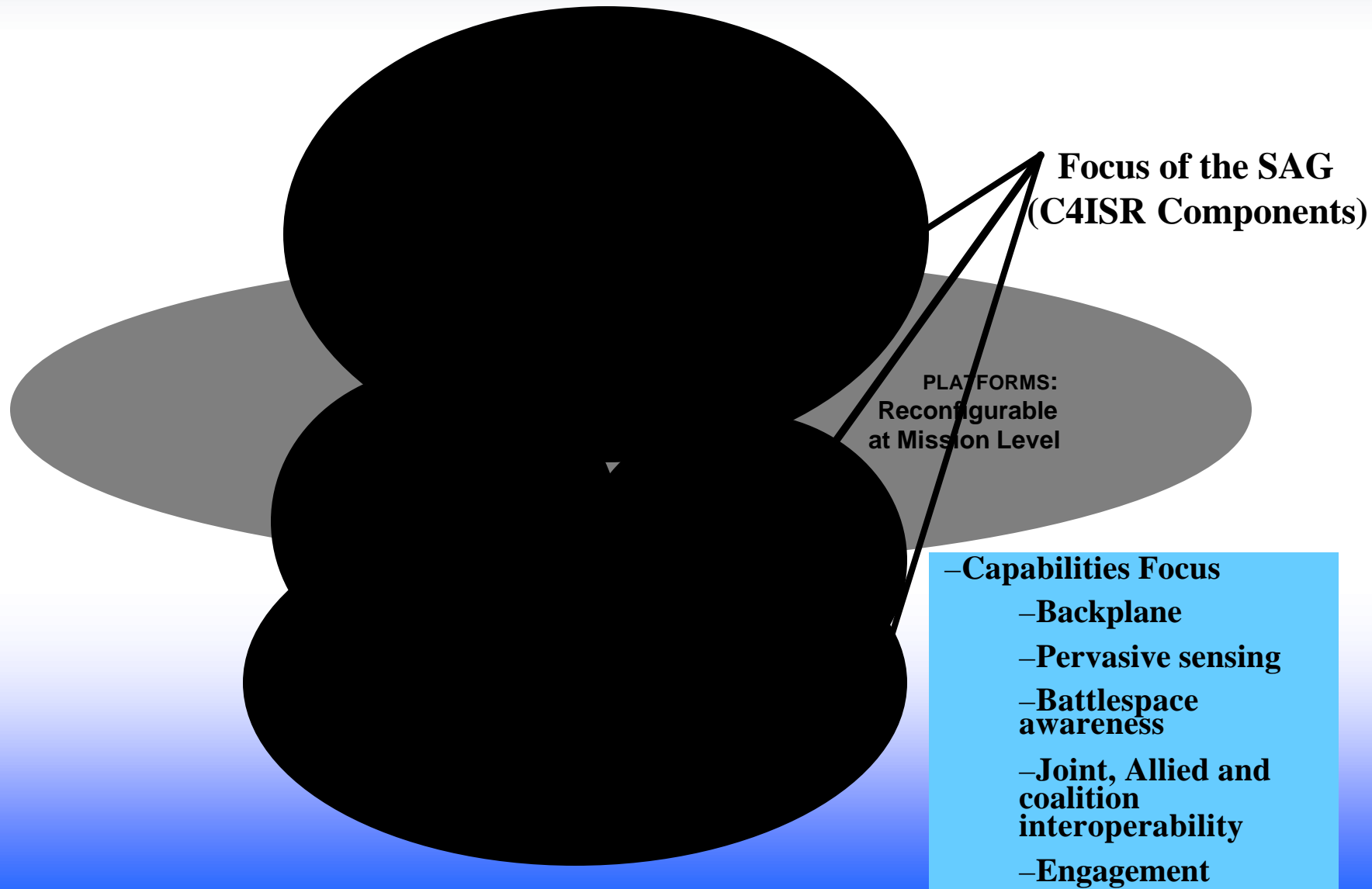*Network Centric Warfare is the theory.*

*Net-Centric Operations is the concept.*

*FORCEnet is the process of making the theory and concept a reality.*

*"FORCEnet is the operational construct and architectural framework for Naval Warfare in the Information Age which integrates Warriors, sensors, networks, command and control, platforms and weapons into a networked, distributed combat force, scalable across the spectrum of conflict from seabed to space and sea to land."\**



*CNO's Strategic Study Group - XXI definition from 22 July 02 CNO Briefing

# FORCEnet System Components

**Focus of the SAG (C4ISR Components)**

**PLATFORMS: Reconfigurable at Mission Level**

–Capabilities Focus

–Backplane

–Pervasive sensing

–Battlespace awareness

–Joint, Allied and coalition interoperability
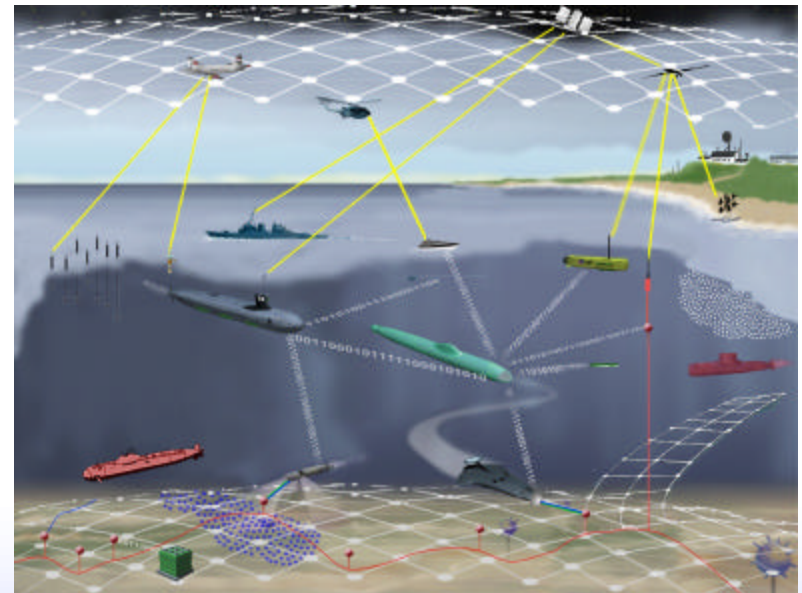
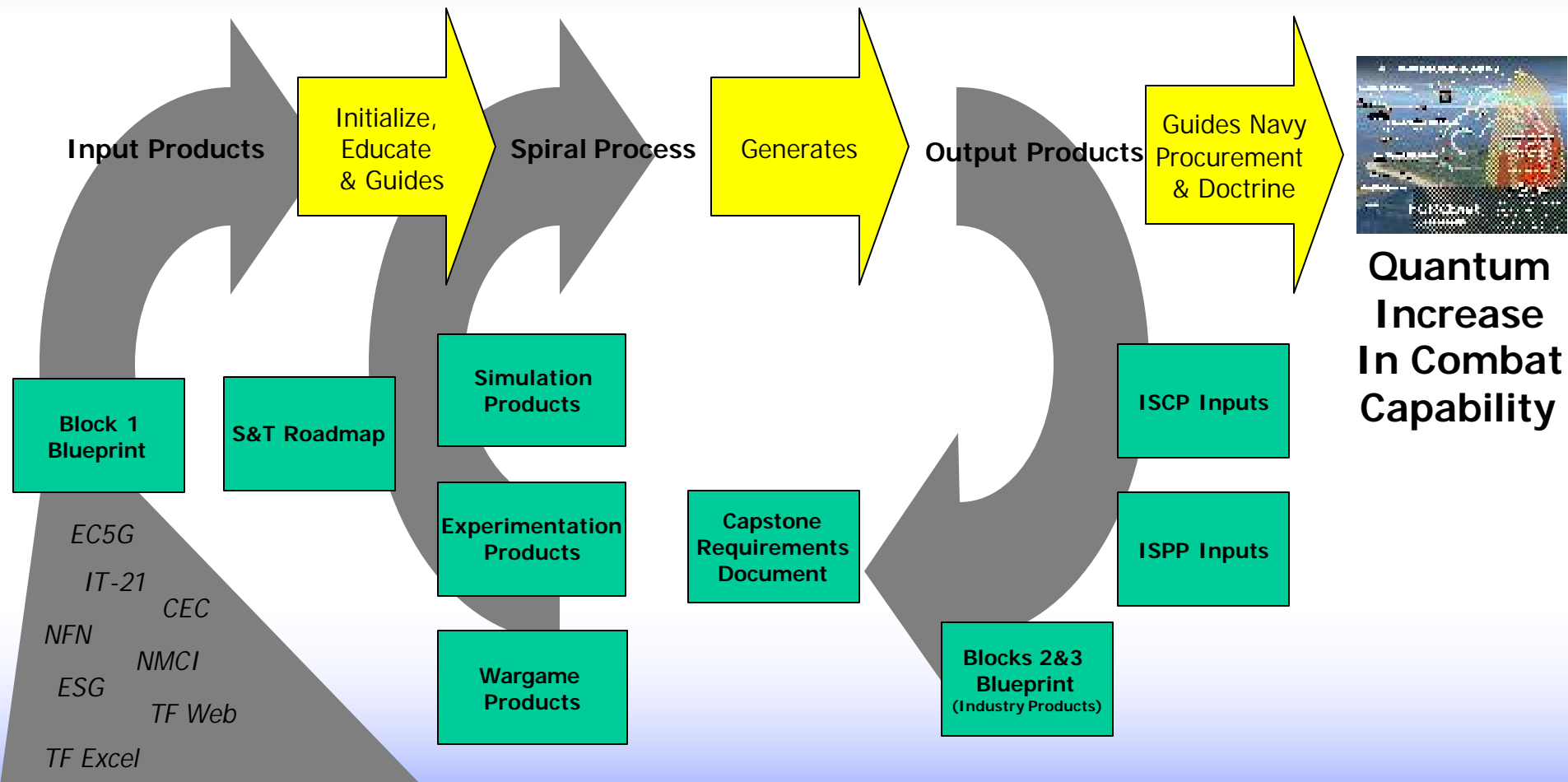–Engagement

# FORCEnet HUMAN ELEMENT

- Provide the Fleet with highly skilled, trained, and continuously educated teams

- Task Force Excel and Sea Warrior

- Recruit, train, educate and retain skilled Sailors and Officers

- Create challenging learning opportunities with flexible incentive packages

- Technical Data must support the Fleet user's operational and training requirements

# Functional Requirements for Distributed Networking

- **Roles, Responsibilities, and Constructs necessary to make FORCEnet a reality**
    - Experimentation
    - Tech Development
    - Engineering Distributed Systems
    - Joint Operations
    - Joint Logistics
    - Warrior Preparation/Design
    - Acquisition & Fleet Introduction

# FORCEnet Spiral Acquisition Process



**Input Products** → Initialize, Educate & Guides → **Spiral Process** → Generates → **Output Products** → Guides Navy Procurement & Doctrine →

**Quantum Increase In Combat Capability**

Block 1 Blueprint

S&T Roadmap

*EC5G*

*IT-21*

*CEC*

*NFN*

*NMCI*

*ESG*

*TF Web*

*TF Excel*

Simulation Products

Experimentation Products

Wargame Products

Capstone Requirements Document

ISCP Inputs

ISPP Inputs

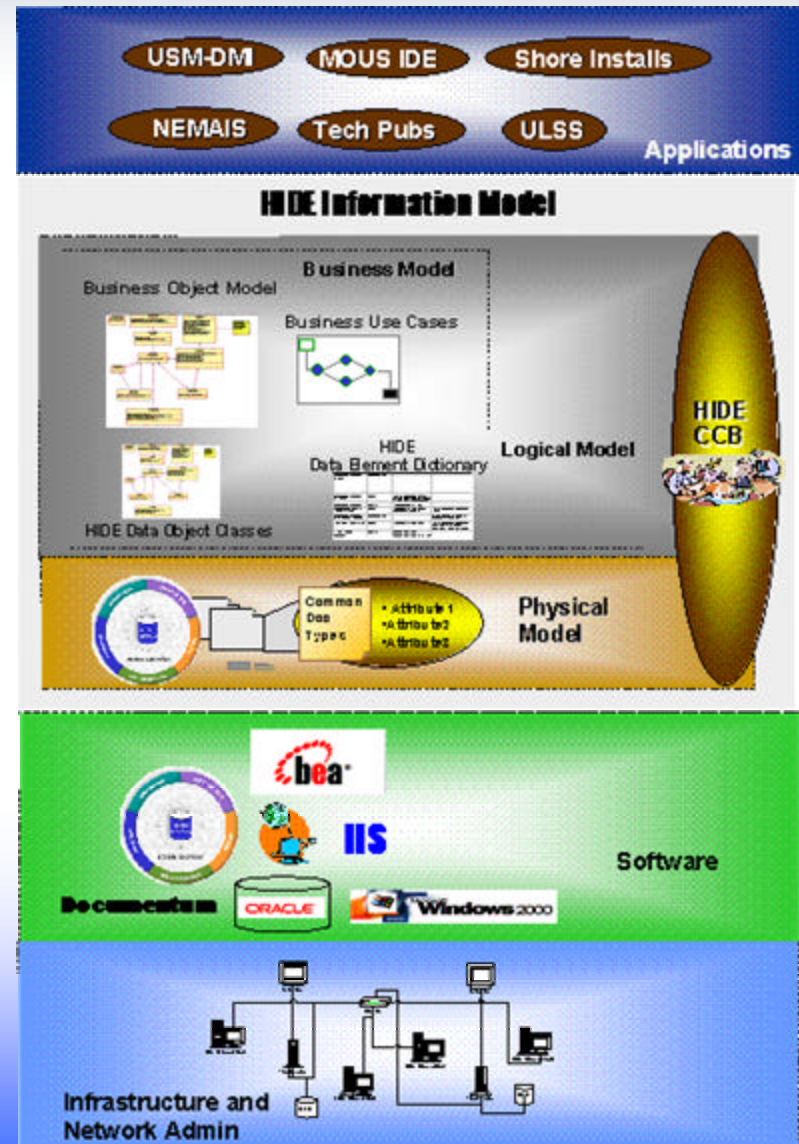Blocks 2&3 Blueprint (Industry Products)

# TD Required Changes

- Transform the way we think of "technical data"
- Technical Manuals can no longer be handled as monolithic documents
- 21st Century IT makes possible
  - Publishing authoritative, up-to-date data
  - With technical "content"
  - In granular, reusable "knowledge objects"
  - A means for our users to locate the right technical data at the right time
- Integrated Tech Data with HSI
- Fleet Integrated Product Development (IPD) Assessment
  - Supporting ForceNet means being able to develop and delivery ILS support packages rapidly.
  - Current tech data management paradigm - *too slow*

# Changing the Paradigm

- SPAWAR 04: Taking the lead to logistically support ForceNet
  - Infrastructure – Horizontal Integrated Data Environment
  - Virtual Document / XML Content development for IT-21
  - Supporting ILE in Tech Data / Training Content Integration
  - Revising instructions
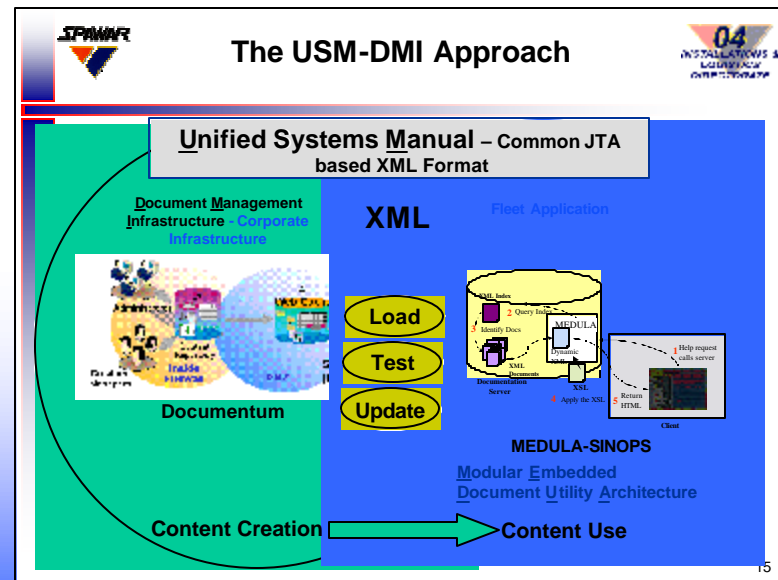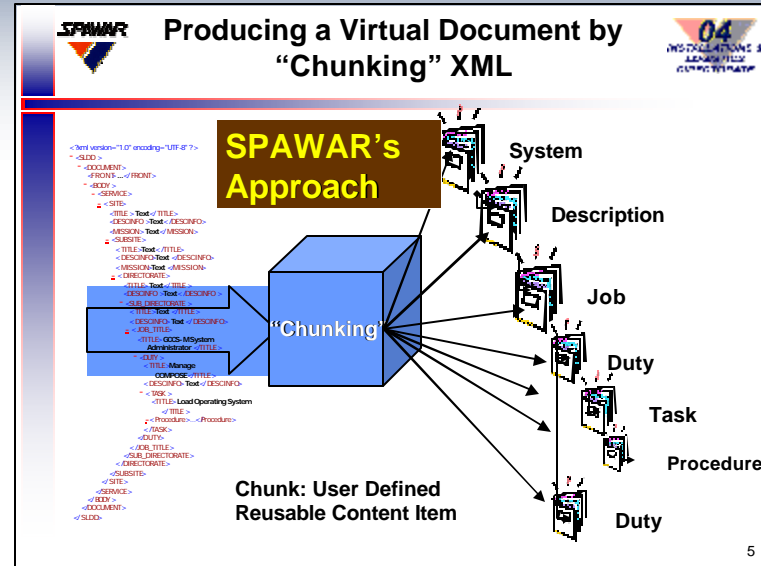    - ILS Certification (4105.1)
    - TMMA (4160.4)

# The Horizontal Integrate Data Environment (HIDE)

- HIDE provides a hardware and software infrastructure for enterprise content management and sharing

- Capable of sharing virtual document / chunks of data using XML

- HIDE will be discussed in more detail during this conference

# XML, Virtual Documents and USM-DMI

- Virtual Document concept is a new paradigm for meeting 21$^{st}$ century information requirements

- USM-DMI is SPAWAR's initiative to create IT-21 systems integrated content using HIDE, XML and virtual documents



Producing a Virtual Document by "Chunking" XML



The USM-DMI Approach

# SUMMARY

- FORCEnet is the foundation for Sea Power 21
  - FORCEnet operations require a highly networked force supported by advances in information age capabilities
  - FORCEnet must include the Human Element - 21st Century Warrior
  - FORCEnet is not hardware or a box
- Will evolve as technologies allows
- Implementing FORCEnet requires new implementation strategies and spiral development approach
- ILS transformation is key to ForceNet success

*A FULLY NETTED FORCE + 21ST CENTURY WARRIOR = FORCENET*